What is claimed is:

1. A feedback output queuing method comprising:

determining a level of congestion at an output queue;

determining an ingress forwarding scheme for forwarding information to the output queue based upon the level of congestion at the output queue; and

forwarding information to the output queue based upon the ingress forwarding scheme.

2. The method of claim 1, wherein determining the level of congestion at the output queue comprises:

collecting congestion information for the output queue;

computing a running time average of the output queue size; and

deriving a drop probability for the output queue based upon the running time average of the output queue size.

3. The method of claim 1, wherein determining the level of congestion at the output queue comprises:

monitoring an input data rate to the output queue; and

monitoring an output data rate from the output queue.

4. The method of claim 1, wherein determining an ingress forwarding scheme for forwarding information to the output queue based upon the level of congestion at the output queue comprises:

determining an ingress drop probability for dropping information destined for the output queue based upon the level of congestion at the output queue.

5. The method of claim 1, wherein determining an ingress forwarding scheme for forwarding information to the output queue based upon the level of congestion at the output queue comprises:

determining a forwarding rate for forwarding information to the output queue based upon the level of congestion at the output queue.

6. The method of claim 4, wherein determining an ingress drop probability for dropping information destined for the output queue based upon the level of congestion at the output queue comprises:

maintaining a step number for the output queue, the step number indicating an ingress drop probability level having a corresponding ingress drop probability;

initializing the step number for the output queue to a predetermined initial step number;

setting the ingress drop probability for the input queue equal to an ingress drop probability corresponding to the initial step number;

monitoring changes in the level of congestion at the output queue;

incrementing the step number for the output queue and setting the ingress drop probability for the input queue equal to an ingress drop probability corresponding to the incremented step number, if the level of congestion at the output queue is greater than a first predetermined threshold; and

decrementing the step number for the output queue and setting the ingress drop probability for the input queue equal to an ingress drop probability corresponding to the decremented step number, if the level of congestion at the output queue is less than a second predetermined threshold.

7. The method of claim 6, wherein the step number for the output queue is maintained at an ingress port.

8. The method of claim 6, wherein the step number for the output queue is maintained at the output queue.

9. The method of claim 4, wherein determining an ingress drop probability for dropping information destined for the output queue based upon the level of congestion at the output queue comprises:

determining thresholds T and h;

determining a number of ingress drop probability levels n, where:

$$n = \left\lceil \log_{\frac{1-T}{1-h}} (1/N) \right\rceil;$$

and

determining an ingress drop probability s_n for each ingress drop probability level n, where:

$$sn = 1 - \left(\frac{1-T}{1-h}\right)^n.$$

10. The method of claim 4, wherein determining an ingress drop probability for dropping information destined for the output queue based upon the level of congestion at the output queue comprises:

determining that the level of congestion at the output queue has increased; and

increasing the ingress drop probability.

11. The method of claim 4, wherein determining an ingress drop probability for dropping information destined for the output queue based upon the level of congestion at the output queue comprises:

determining that the level of congestion at the output queue has decreased; and

decreasing the ingress drop probability.

12. The method of claim 5, wherein determining a forwarding rate for forwarding information to the output queue based upon the level of congestion at the output queue:

determining that the level of congestion at the output queue has increased; and

decreasing the forwarding rate.

13. The method of claim 5, wherein determining a forwarding rate for forwarding information to the output queue based upon the level of congestion at the output queue:

determining that the level of congestion at the output queue has decreased; and

increasing the forwarding rate.

14. A feedback output queuing system comprising:

egress logic operably coupled to maintain an output queue and determine a level of congestion at the output queue; and

ingress logic operably coupled to control the rate at which information is forwarded to the output queue using an ingress forwarding scheme that is based upon the level of congestion at the output queue.

15. The system of claim 14, wherein the egress logic is operably coupled to determine the level of congestion at the output queue by collecting congestion information for the output queue, computing a running time average of the output queue size, and deriving a drop probability for the output queue based upon the running time average of the output queue size, the drop probability indicating the level of congestion at the output queue.

16. The system of claim 14, wherein the egress logic is operably coupled to determine the level of congestion at the output queue by monitoring an input data rate to the output queue and monitoring an output data rate from the output queue.

17. The system of claim 14, wherein the ingress logic is operably coupled to determine the ingress forwarding scheme based upon output queue congestion information provided by the egress logic.

18. The system of claim 14, wherein the egress logic is operably coupled to determine the ingress forwarding scheme and provide the ingress forwarding scheme to the ingress logic.

19. The system of claim 14, wherein the ingress logic is operably coupled to drop information destined for the output queue with an ingress drop probability that is determined based upon the level of congestion at the output queue.

20. The system of claim 14, wherein the ingress logic is operably coupled to forward information to the output queue at a forwarding rate that is determined based upon the level of congestion at the output queue.

21. The system of claim 19, wherein the ingress drop probability is determined by maintaining a step number for the output queue, the step number indicating an ingress drop probability level having a corresponding ingress drop probability; initializing the step number for the output queue to a predetermined initial step number; setting the ingress drop probability for the input queue equal to an ingress drop probability corresponding to the initial step number; monitoring changes in the level of congestion at the output queue; incrementing the step number for the output queue and setting the ingress drop probability for the input queue equal to an ingress drop probability corresponding to the incremented step number, if the level of congestion at the output queue is greater than a first predetermined threshold; and decrementing the step number for the output queue and setting the ingress drop probability for the input queue equal to an ingress drop probability corresponding to the decremented step number, if the level of congestion at the output queue is less than a second predetermined threshold.

22. The system of claim 21, wherein the step number for the output queue is maintained by the ingress logic.

23. The system of claim 21, wherein the step number for the output queue is maintained by the egress logic.

24. The system of claim 19, wherein the ingress drop probability is determined by:

determining thresholds T and h;

determining a number of ingress drop probability levels n, where:

$$n = \left\lceil \log_{\frac{1-T}{1-h}} (1/N) \right\rceil;$$

and

determining an ingress drop probability s_n for each ingress drop probability level n, where:

$$sn = 1 - \left(\frac{1-T}{1-h}\right)^n .$$

25. The system of claim 19, wherein the ingress drop probability is increased when the level of congestion at the output queue increases.

26. The system of claim 19, wherein the ingress drop probability is decreased when the level of congestion at the output queue decreases.

27. The system of claim 20, wherein the forwarding rate is decreased when the level of congestion at the output queue increases.

28. The system of claim 20, wherein the forwarding rate is increased when the level of congestion at the output queue decreases.

29. A feedback output queuing apparatus comprising:

egress logic operably coupled to maintain an output queue and determine a level of congestion at the output queue; and

ingress logic operably coupled to control the rate at which information is forwarded to the output queue using an ingress forwarding scheme that is based upon the level of congestion at the output queue.

30. The apparatus of claim 29, wherein the egress logic is operably coupled to determine the level of congestion at the output queue by collecting congestion information for the output queue, computing a running time average of the output queue size, and deriving a drop probability for the output queue based upon the running time average of the output queue size, the drop probability indicating the level of congestion at the output queue.

31. The apparatus of claim 29, wherein the egress logic is operably coupled to determine the level of congestion at the output queue by monitoring an input data rate to the output queue and monitoring an output data rate from the output queue.

32. The apparatus of claim 29, wherein the ingress logic is operably coupled to determine the ingress forwarding scheme based upon output queue congestion information provided by the egress logic.

33. The apparatus of claim 29, wherein the egress logic is operably coupled to determine the ingress forwarding scheme and provide the ingress forwarding scheme to the ingress logic.

34. The apparatus of claim 29, wherein the ingress logic is operably coupled to drop information destined for the output queue with an ingress drop probability that is determined based upon the level of congestion at the output queue.

35. The apparatus of claim 29, wherein the ingress logic is operably coupled to forward information to the output queue at a forwarding rate that is determined based upon the level of congestion at the output queue.

36. The apparatus of claim 34, wherein the ingress drop probability is determined by maintaining a step number for the output queue, the step number indicating an ingress drop probability level having a corresponding ingress drop probability; initializing the step number for the output queue to a predetermined initial step number; setting the ingress drop probability for the input queue equal to an ingress drop probability corresponding to the initial step number; monitoring changes in the level of congestion at the output queue; incrementing the step number for the output queue and setting the ingress drop probability for the input queue equal to an ingress drop probability corresponding to the incremented step number, if the level of congestion at the output queue is greater than a first predetermined threshold; and decrementing the step number for the output queue and setting the ingress drop probability for the input queue equal to

an ingress drop probability corresponding to the decremented step number, if the level of congestion at the output queue is less than a second predetermined threshold.

37. The apparatus of claim 36, wherein the step number for the output queue is maintained by the ingress logic.

38. The apparatus of claim 36, wherein the step number for the output queue is maintained by the egress logic.

39. The apparatus of claim 34, wherein the ingress drop probability is determined by:

determining thresholds T and h;

determining a number of ingress drop probability levels n, where:

$$n = \left\lceil \log_{\frac{1-T}{1-h}} (1/N) \right\rceil;$$

and

determining an ingress drop probability s_n for each ingress drop probability level n, where:

$$sn = 1 - \left(\frac{1-T}{1-h}\right)^n .$$

40. The apparatus of claim 34, wherein the ingress drop probability is increased when the level of congestion at the output queue increases.

41. The apparatus of claim 34, wherein the ingress drop probability is decreased when the level of congestion at the output queue decreases.

42. The apparatus of claim 35, wherein the forwarding rate is decreased when the level of congestion at the output queue increases.

43. The apparatus of claim 35, wherein the forwarding rate is increased when the level of congestion at the output queue decreases.